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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/581,253	05/31/2006	Hitoshi Yokoyama	2006_0736A	1805

513 7590 01/21/2011

WENDEROTH, LIND & PONACK, L.L.P.
1030 15th Street, N.W.,
Suite 400 East
Washington, DC 20005-1503

EXAMINER	
BADR, HAMID R	

ART UNIT	PAPER NUMBER
1781	

NOTIFICATION DATE	DELIVERY MODE
01/21/2011	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

ddalecki@wenderoth.com
eoa@wenderoth.com

Office Action Summary	Application No.	Applicant(s)	
	10/581,253	YOKOYAMA ET AL.	
	Examiner	Art Unit	
	HAMID R. BADR	1781	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *06 December 2010*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *9 and 11-15* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *9 and 11-15* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *12/06/2010*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Applicants' amendment filed 12/06/2010 is acknowledged.

Claims 9, and 11-15 are being considered on the merits.

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 9 and 11-15 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

3. Claim 11 is indefinite for "the bacteria used for the lactic fermentation is obtained from sour leaven". The word "obtained" implies that those bacteria are isolated from sour leaven as pure culture. It is unclear whether a natural starter as found in sour leaven is involved in the fermentation of soybean material or pure cultures of yeast and bacterial flora of sour leaven are employed for the fermentation process. Therefore it is not clear what applicants regard as their invention.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 9 and 11-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP-11-253095 (Machine translation; hereinafter R1) in view of Kato et al. (US 5,972,394; hereinafter R2).

3. R1 discloses a process wherein soybean milk is mixed with cereal flour for bread making. [0001]

4. R1 discloses that the soybean milk is a part of the raw materials of their bread. [0007]

5. R1 discloses mixing about 35% (baker's percent) soybean milk with the cereal flour. [0016] Assuming the soybean milk to contain 10% solid content, the amount disclosed by R1 will provide about 3.5% soybean solids. It is noted that regular soymilk contains about 10% (w/w) dry solids. However, it would be obvious to use more or less soymilk when the dry solids content of soymilk varies. At higher dry solids, less milk is used and at lower dry solids more milk is used for a fixed required amount of soybean material. Since R1 does not disclose the dry solids of the soymilk used in their invention, a 10% dry solids, as in regular soymilk, has been assumed for calculations.

6. R1 is silent regarding the addition of sterilized; fermented soybean milk in the bread formulation.

7. R2 discloses a method of preparing a fermented soybean milk comprising subjecting a soybean milk to fermentation with yeast and lactic acid bacteria and subjecting the resulting fermented soybean milk to a deactivation treatment to deactivate the yeast and bacteria by heat. (Abstract).

8. R2 discloses *Saccharomyces cerevisiae* as the yeast and a group of lactic acid bacteria, including S. thermophillus and L. bulgaricus, for the lactic fermentation. (Col. 3, lines 49-63). The sour leaven as presently claimed comprises S. exiguus, L. sanfrancisco, L. italicus. All of these organisms are known in the sour dough art and sour dough bread comprising these organisms is a conventional bread. Therefore, using such organisms for lactic and yeast fermentations as presently claimed, for creating the typical flavor and aroma of sour dough bread, would have been motivated and obvious.

9. R2 discloses that after adding the yeast and the lactic acid bacteria into the soybean milk, the milk undergoes fermentation. (col. 3, lines 49-63)

10. It is noted that lactic acid bacteria of sour leaven are known in the art of baking, it is obvious that the lactic acid bacteria for the mixed fermentation of soybean milk can be derived from sour leaven as presently claimed to mimic the flavor and aroma of sour dough bread.

11. It is also noted that the pH range 4.0-4.8, as presently claimed, is intrinsic in the fermented soybean protein as disclosed by R2.

12. R2 discloses the heat treatment and deactivation of the fermented soybean milk. (Col. 4, lines 36-50). The heat treatment of the fermented soymilk is carried out to stop the fermentation. The sterilization of the fermented soybean product, as presently claimed, is thus obvious.

13. R2 discloses during the fermentation, various substances including alcohol and lactic acid are produced and the flavor and the taste are simultaneously improved so as

to obtain a fermented soybean milk which has a good flavor and a good taste. (Col. 3, lines 3-7).

14. The improved good flavor and taste of the fermented soybean product, as disclosed by R2, in comparison with the conventional soybean milk will motivate those of skill in the art to incorporate the fermented product into the bread formulation to bring about improved aroma and taste of the baked bread.

15. Therefore, it would have been obvious to modify the teachings of R1 and use the mixed fermentation product of soybeans as taught by R2 . One would do so to improve the quality of the baked bread regarding aroma and flavor of the baked bread. Absent any evidence to contrary and based on the combined teachings of the cited references, there would be a reasonable expectation of success in incorporating the fermented soybean product into bread dough to impart functionality and flavor to the baked bread.

16. Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over JP-11-253095 (Machine translation; hereinafter R1) and Kato et al. (US 5,972,394; hereinafter R2) as applied to claim 9, further in view of Ishigaki et al. (US 6,183,787; hereinafter R3).

17. R1 and R2 are silent regarding the proteolysis of soybean milk.

18. R3 discloses a quality improver for producing bread comprising a lactic acid fermentation product of soy bean. (Abstract)

19. R3 discloses bread formulations by incorporating quality improvers for producing bread. R3 discloses the addition of protease into the formulations. The lactic acid

fermentation product of product of soybean is produced by preparing the soybeans, adding the protease to the slurry and hydrolyzed for 30 minutes. Then a lactic acid starter is added and fermented for certain time at certain temperature. Bread is then produced by incorporating the quality improver into wheat flour. (Col. 9, Examples 1-4, Table 1 and lines 25-40 and col.7, lines 48-54).

20. In summary, R1 teaches of incorporating soybean protein into bread, R3 discloses that the fermented soybean protein is a bread quality improver and R2 teaches how to prepare fermented soybean material using yeast and lactic acid bacteria.

21. Therefore, it would have been obvious to modify the teachings of R1 and use the mixed fermentation product of soybeans as taught by R2 while treating the fermented soybean proteins with protease as taught by R3. One would do so to improve the quality of the baked bread regarding aroma and flavor as well as the nutritional quality of the baked bread. Absent any evidence to contrary and based on the combined teachings of the cited references, there would be a reasonable expectation of success in incorporating the fermented soybean product into bread dough to impart functionality and flavor and nutritional quality to the baked bread.

Response to Arguments

Applicants arguments have been considered. These arguments are not deemed persuasive for the following reasons.

1. Applicants argue that in Example 1 or R1, soybean milk is added at 35% (baker's percent). Then they say assuming the soybean milk to contain 15-20% dry solids, the soybean solid content of the mixed dough based on 100 parts of the cereal flour is 5.25 to 7% (baker's percent) which is apparently outside the claimed range.

a. Applicants are assuming the dry solid content of the soymilk at 15-20% which is a presumptive percent. The regular soymilk contains about 10% dry solids, and at this level, the dry solids content of the formulation of R1, due to soybeans dry solids, would be about 3.5%.

Furthermore, R3 also uses fermented soybeans as bread quality improver wherein about 1% of the fermented product is incorporated into the dough as a quality improver.

2. Applicants argue that R2 discloses a method of fermenting soybean milk. However, R2 uses the fermented milk as a beverage but does not add the fermented soymilk to bread.

a. The rejection is an obviousness type rejection involving the teachings of other references. The addition of soybean milk to a dough for preparing a baked product is disclosed by R1 which is done for improving organoleptic as well as nutritional and functional purposes. If R2 would involve the addition of fermented soymilk to bread, there was no need for R1 in the rejections. However, R2 discloses that fermented soymilk has improved flavor as well as the sterilization of the fermented product to stop fermentation which incidentally is a limitation in claim 9 which in turn was added as an amendment by Applicants, therefore, the fermented product of R2 can be substituted for

the soymilk of R1. Furthermore, R3 also discloses fermented soybean milk as a bread quality improver.

3. Applicants argue that R3 is relied upon as disclosing a quality improver for producing bread comprising lactic acid and that this reference does not remedy the above discussed deficiencies or R1 and R2.

a. R3 discloses that a fermented soy protein can be used as bread quality improver as well as disclosing the proteolysis of soybean protein which has been claimed in claim 15. The disclosure by R3 is complementary to disclosures of R1 and R2. It further motivates the use of fermented soy protein as a bread quality improver.

Conclusion

22. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to HAMID R. BADR whose telephone number is (571)270-3455. The examiner can normally be reached on M-F, 8:00-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Keith Hendricks can be reached on (571) 272-1401. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Hamid R Badr
Examiner
Art Unit 1781

/Keith D. Hendricks/

Supervisory Patent Examiner, Art Unit 1781